USAWC STRATEGY RESEARCH PROJECT

Trust – The Key to Leadership in Network Centric Environments

by

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REPORT DOCUMENTATION PAGE

Form Approved OMB No. 0704-0188

Public reporting burden for this collection of information is estibated to average 1 hour per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing this collection of information. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing this burder to Department of Defense, Washington Headquarters Services, Directorate for Information Operations and Reports (0704-0188), 1215 Jefferson Davis Highway, Suite 1204, Arlington, VA 22202-4302. Respondents should be aware that notwithstanding any other provision of law, no person shall be subject to any penalty for failing to comply with a collection of information if it does not display a currently valid OMB control number. PLEASE DO NOT RETURN YOUR FORM TO THE ABOVE ADDRESS.

1. REPORT DATE (DD-MM-YYYY) 07-04-2003	2. REPORT TYPE	3. DATES COVERED (FROM - TO) xx-xx-2002 to xx-xx-2003

4. TITLE AND SUBTITLE
Trust - The Key to Leadership in Network Centric Environments
Unclassified

5a. CONTRACT NUMBER
5b. GRANT NUMBER
5c. PROGRAM ELEMENT NUMBER

6. AUTHOR(S)
Kemp, Christopher R. ; Author

5d. PROJECT NUMBER
5e. TASK NUMBER
5f. WORK UNIT NUMBER

7. PERFORMING ORGANIZATION NAME AND ADDRESS
U.S. Army War College
Carlisle Barracks
Carlisle, PA17013-5050

8. PERFORMING ORGANIZATION REPORT NUMBER

9. SPONSORING/MONITORING AGENCY NAME AND ADDRESS
,

10. SPONSOR/MONITOR'S ACRONYM(S)

11. SPONSOR/MONITOR'S REPORT NUMBER(S)

12. DISTRIBUTION/AVAILABILITY STATEMENT
APUBLIC RELEASE
,

13. SUPPLEMENTARY NOTES

14. ABSTRACT
See attached file.

15. SUBJECT TERMS

16. SECURITY CLASSIFICATION OF:			17. LIMITATION OF ABSTRACT Same as Report (SAR)	18. NUMBER OF PAGES 36	19. NAME OF RESPONSIBLE PERSON Rife, Dave RifeD@awc.carlisle.army.mil
a. REPORT Unclassified	b. ABSTRACT Unclassified	c. THIS PAGE Unclassified			19b. TELEPHONE NUMBER International Area Code Area Code Telephone Number DSN

Standard Form 298 (Rev. 8-98)
Prescribed by ANSI Std Z39.18

ABSTRACT

AUTHOR: Christopher R. Kemp

TITLE: Trust – The Key to Leadership in Network Centric Environments

FORMAT: Strategy Research Project

DATE: 07 April 2003   PAGES: 36   CLASSIFICATION: Unclassified

For the Army to function effectively in future Network Centric Warfare (NCW) environments, it must develop trust-based organizations through instilling trust-based competencies in leaders at all levels. This paper seeks to delineate the requirements necessary for the military to truly be effective in Network Centric environments. Much has been written regarding NCW and much has been written regarding leadership, but there has not been much done linking the two together. There is also an extensive body of research discussing the current and past challenges the military has had with developing trust-based organizations. This paper makes the argument that trustworthy leaders create trustworthy organizations, and in turn, will create more effective organizations in emergent environments. For these reasons, it is critical for future leaders, at all levels, to focus on leadership competencies beyond those identified in FM 22-100, *Army Leadership*.

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PREFACE

        The catalysts for this research project are several articles written by Lieutenant General William M. Steele, in 2001, regarding the perceived status of the Army's leadership as a profession and leadership competencies required for the 21st Century.

        I would also be remiss if I did not extend my personal thanks to Colonel Chris Paparone for his untiring, professional guidance in the development of this paper. He not only provided inspiration, he provided tremendous insight and encouragement. Additionally, I would like to thank Colonel Jim Henderson who took the time to provide me with insightful personal work products for review and shared his thoughts regarding how we will fight future wars. Much appreciation goes to the rest of my seminar mates who provided periodic feedback on their perceptions of trust within organizations that they had served. Their comments forced me to evaluate my own assumptions, while providing me excellent data points for consideration during this project.

LIST OF ILLUSTRATIONS

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TRUST – THE KEY TO LEADERSHIP IN NETWORK CENTRIC ENVIRONMENTS

> …technology alone cannot provide the dominance required to win. The centerpiece of our formations remains quality leaders and their soldiers…not technology.
>
> —Lieutenant General William M. Steele

As the Army's transformation process moves towards Network Centric Warfare (NCW), strategic leaders will be driven by compressed timeframes and be forced to operate within emergent environments at the highest levels of volatility, uncertainty, complexity, and ambiguity (VUCA). According to the Signal Regiment's Vision statement,

> …infostructure will enable leaders to build synergistic organizations that cross echelons, functional areas, commercial and military sectors, and national and international barriers. The network will support the employment of virtual Tactical Operation Centers (TOCs) and staffs. Physical collocation will not be necessary to plan and execute an operation. Commanders will command and control the force on the move using collaborative planning throughout all phases of an operation (mobilization, deployment, engagement, and redeployment).[1]

There is an expectation that Information Technology (IT) will allow a continuum of very centralized or decentralized Command and Control (C2). If this is so, then an operational paradox will be created. Senior leaders will have the ability to circumvent multiple levels of command and guide soldiers in the foxhole. Inversely, cyber-soldiers with superior situational awareness will have the ability to function independent of direct supervision while possibly making strategic decisions. This paradox is the critical reason for future strategic leaders, at all levels, to focus on leadership competencies beyond those identified in FM 22-100, *Army Leadership*. For the Army to function effectively in NCW environments, it must develop a trust-based organization that is supported by leaders with trust-based leadership competencies.

In *Waging Modern War*, General Wesley Clark further amplifies the need for developing trust-based leadership competencies when discussing the conflict in Kosovo:

> …we can dominate the outcome of a battle with minimal risk and central control, with a couple of smart people making the key call. Not yet. Neither the specific information nor the range of actions can yet be done from a distance. Instead, we will need to place people on the ground to observe and listen…they will have fabulously powerful communications and other technologies. But they will also require physical courage and a willingness to take physical risks. …the margin of

victory will be courageous individual soldiers…who are able to make critical decisions on which the prosecution of the campaign will rest.[2]

To lead the future force, strategic leaders must have the overarching ability to communicate effectively and efficiently at multiple levels within their emergent environments, while trusting leaders at all levels to make informed decisions. Environments will be complex and impacted by a multitude of variables that leaders must understand, to include: geopolitics, environment, socio-economics, world economy, media, and a myriad of additional factors. As strategic leaders travel through these communications mazes, they must be constantly aware of three specific strategic leader competencies and have the ability to communicate them through verbal, written, and nonverbal communications. These three competencies – *values-based ethical behavior, self-awareness, and adaptability*-- are inextricably linked and directly impact the level of trust a strategic leader invokes. As leaders improve in one competency, they improve in another. Inversely, if leaders decline in one of these specific competencies, there will be degradation in another, and their level of trustworthiness in the professional community will also decrease. Therefore, it is critical for strategic leaders to continue their personal evolution as they move through their careers.

Even though this overall process is not linear in nature, Figure 1 below is a pictorial depicting the increased organizational effectiveness that is created through the synergy of trust-based leadership competencies, trusted leaders, and trusted organizations.
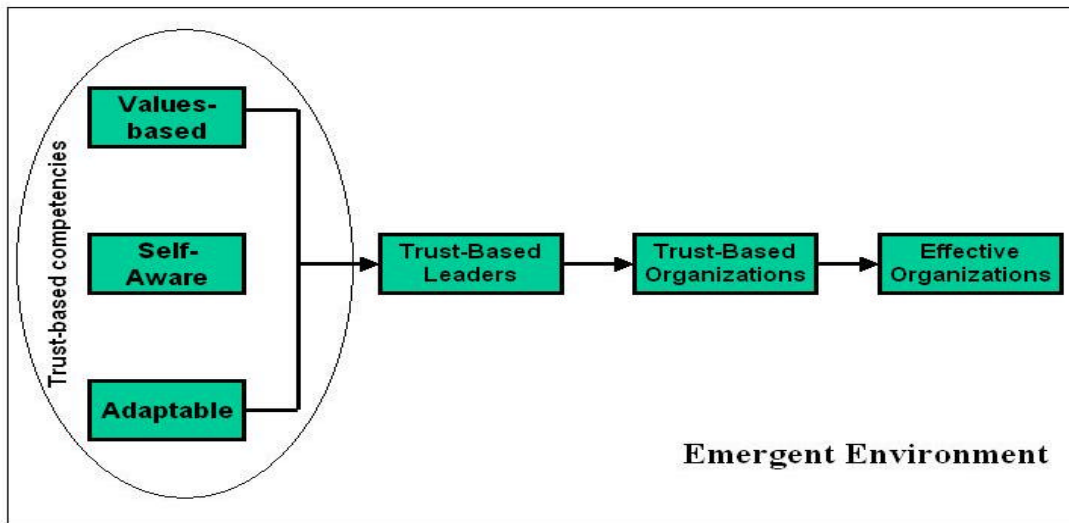

FIGURE 1. TRUST-BASED COMPETENCIES IN EMERGENT ENVIRONMENTS

DEFINING EMERGENT PLANNING ENVIRONMENTS

NCW creates emergent planning environments. Weick describes emergent planning through the phrase "retrospective sensemaking."[3] Rather than the planning sequence being the traditional "Plan – Act – Evaluate" it becomes, "Act – Evaluate – Plan." The real value of this planning lies in flexible organizations that operate in dynamic environments supported with high technology. In this environment learning is never complete and planning is dispersed and connected by a shared vision. There is an expectation of trial-and- error within the organization. Emergent planning seeks problems and then feedback or "enacting the environment."[4]

In emergent environments strategic ideas might emerge from anybody, anywhere, anytime through trial and error or through planning. For NCW organizations to operate efficiently, strategic leaders must understand, value, and trust future emergent planning processes.[5]

DEFINING NETWORK CENTRIC WARFARE

In the text *Network Centric Warfare* it states, "Network Centric Warfare is about human and organizational behavior. NCW is based on adopting a new way of thinking—network-centric thinking—and applying it to military operations."[6]

Finding a clear, agreed upon definition of NCW is a difficult task. However, a group of authors from the Command and Control Research Program (CCRP), which has the mission of improving the Department of Defense's understanding of national security implications for the Information Age, has written extensively regarding this topic. According to these authors, NCW focuses on the linking or networking of the warfighting enterprise with an expectation of increasing fused combat power. NCW provides the soldiers the ability to operate geographically dispersed, with a high level of battlespace awareness, and with efforts that can be enhanced through self-synchronization. NCW will provide increased speed of command by converting data to superior information. This is not just about technology; it is about the military's response to the Information Age.[7]

Alberts, Garstka, and Stein further discuss three key concepts that support the military's NCW environment: 1) geographically dispersed forces, 2) knowledgeable forces, and 3) effective linking of entities. Historically, it has been difficult for us to geographically disperse forces due to limited communications, our inability to move forces quickly, and challenges with separating the supported units from its supporting elements. This has forced us to array forces in a linear fashion with very clear left and right boundaries. The Information Age will allow the

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military to reduce or eliminate the geo-locational constraints currently associated with combat. It will also move the military from massing of forces to massing of effects. As sensors and weapons increase in capability and our ability to move information increases, we will be able to concentrate more effects without having to concentrate more forces. Additionally, battlespace area will be reduced, which will reduce the number of dense, high-value targets available to the enemy.[8]

A force empowered by knowledge is the second key concept for our military to be effective in the NCW environment. This knowledge is derived from a deep understanding of the commander's intent and a shared awareness of the battlespace by all soldiers. With timely, accurate information, soldiers will have the ability to self-synchronize and be more effective while operating autonomously. For this to occur, we will need the right tools and expertise to translate battlespace information to battlespace knowledge.[9]

The reliable, high-performance, robust infostructure that provides effective linking of all entities in the battlespace is third critical concept of NCW. A responsive infostructure will provide the ability to generate synergy and provide an environment where efforts can be dynamically reallocated based on the current or changing situation. By linking soldiers, leaders, and commanders to high quality information services, we increase combat effectiveness.[10]

COMMAND AND CONTROL (C2) IN A NETWORK CENTRIC ENVIRONMENT

If we expect to have geographically dispersed, knowledgeable soldiers that are linked by a robust infostructure, then we need to change the way we command and control our forces. We must develop trust-based organizations with leaders that possess trust-based leadership competencies.

According to David Alberts, "NCW theory argues that, in certain kinds of situations, it is more effective to opt for a network-centric or self-synchronizing approach with the commander focused on influencing the initial conditions of the engagement rather than micromanaging it."[11] He further posits, "Many commands will be automatically disseminated and incorporated in decision aids. Many decisions will be fully automated. Virtually all information will be distributed horizontally. In short, many significant changes will need to be made in the way we think about command and control…."[12]

Agile C2 requires an organization to synchronize effects while providing dynamic command intent. Alberts discusses three critical C2 capabilities: 1) richness, 2) reach, and 3) richness of interaction. Richness relates to the attributes of information provided by the various information sources. Reach simply includes the performance, reliability, and robustness of the

information network. Richness of interaction deals with the transfer of information and the ability to turn information in to knowledge.[13]

    Alberts does not see C2 in a NCW environment as all or nothing. He sees the process in varying degrees, which are depicted visually in the capability model for NCW as five levels in Figure 2.[14]
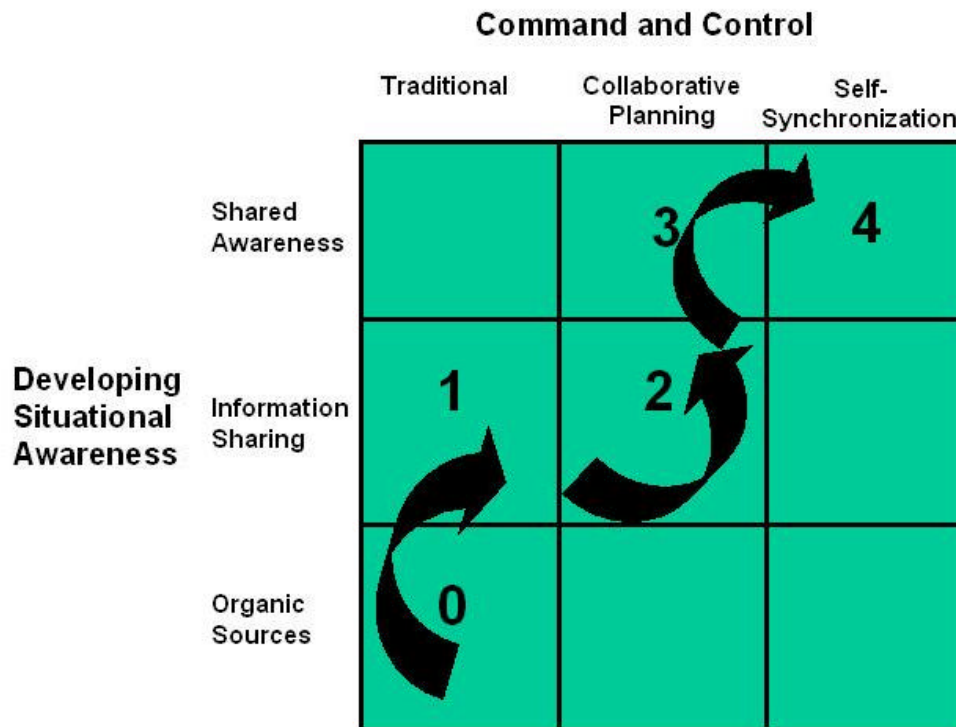

FIGURE 2. NCW LEVELS OF MATURITY AS DEPICTED BY ALBERTS

    This model is based on two underlying pillars of NCW: 1) development of shared awareness and 2) the ability to utilize that shared awareness by moving to self-synchronized command and control. Starting with Level 0, there are five capability levels depicted in the above model. Level 0 represents a hierarchical approach to command and control where most information is collected through a unit's organic systems. At this level, information is stovepiped and not shared outside the existing organization. Shifting from Level 0 to Level 1 involves a move from information push to information pull. At this level, information is more widely available than the previous level, but the process is still somewhat passive. Moving to Level 2 results in collaboration where the goal is to process and understand information, while seeking a

higher level of situational awareness. Level 3 is supported by deeper discussions and collaborations that seek solutions to situations. It is moving beyond what information is and determining what it means. Finally, the goal of NCW C2 is to migrate to Level 4. This level of maturity allows the adaptation of a self-synchronizing approach to command and control.[15]

The challenges of future C2 is summed up well in *Understanding Information Age Warfare*, "Change in C2 organization is crucial to achieving the benefits available in the Information Age. This can be expected to be the long pole in the tent because of the cultural impediments…."[16] It is critical to military organizations to determine who the appropriate decision makers will be on the future battlefields.

DEFINING DECISION MAKERS

In Malone's article, "Is Empowerment Just a Fad? Control, Decision Making, and IT," he discusses three types of decision making structures: 1) independent, decentralized decision makers, 2) centralized decision makers, and 3) connected, decentralized decision makers. It is not difficult to extrapolate his model to military decision making in Network Centric Warfare environments. Figure 3 represents Malone's model with military terminology.[17]

Independent, Decentralized Decision Makers (Warriors)   Centralized, Decision Makers (Commanders)   Connected, Decentralized Decision Makers (Cyber-Leaders)
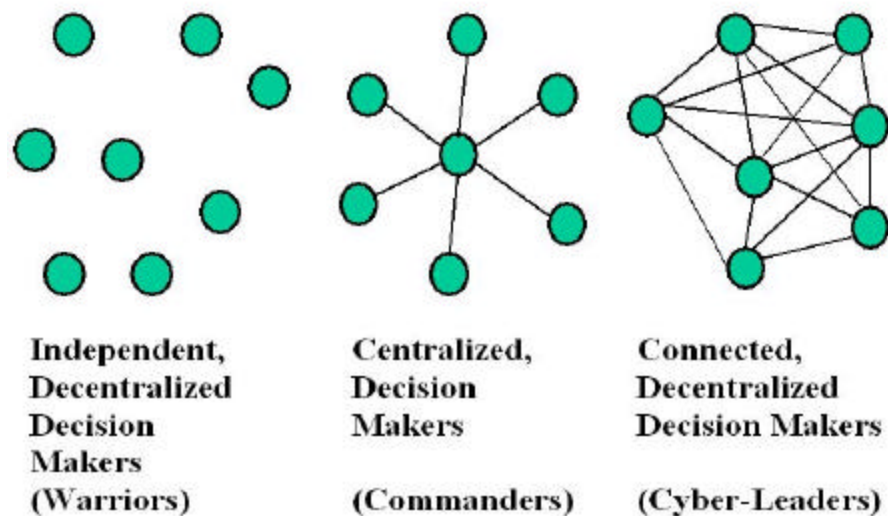
FIGURE 3. THE AUTHOR'S ADAPTATION OF MALONE'S MODEL

Lone-warriors have limited needs for communications, as they tend to make decentralized decisions independently. They make decisions based primarily on only what they can see,

hear, and understand in their immediate environment. They make their own decisions without conferring with hierarchical leaders, subordinate, or peers. The real challenge in this process is uninformed decisions are made without understanding the impact elsewhere. Additionally, the lone-warrior does not have the opportunity to learn from the knowledge or experience of others.

Commanders have typically been centralized decision makers. Gathering information from varied sources, applying their training and experience, and rendering decisions to subordinates for execution. The commander will have the ability to do this to an even greater degree in a Network Centric environment. Through almost perfect Situational Awareness (SA), supported by the Global Information Grid (GIG), the commander will be able to make decisions for the soldier in the foxhole while sitting in an office in the Pentagon. The challenge becomes the layers of command that can be bypassed by a decision maker that believes they have the best information. For this to be an effective process, leaders that are circumvented must trust their superiors to be effective decision makers. Inversely, commanders sitting in Tactical Operations Centers (TOCs) with what they believe is complete visibility of the battlefield must have enough trust in their subordinates to allow them the latitude to make what might become strategic decisions.

Cyber-leaders, or leaders in NCW, will have the ability to make connected, decentralized decisions by utilizing their commander's intent-based orders and a Common Relevant Operating Picture (CROP) that is supported by a robust GIG. With the vast amounts of available remote information, cyber-leaders will almost be able to make autonomous decisions. For this to be effective, relevant information must not just be provided to the commander, but also to all decentralized decision makers. This will allow leaders on the battlefield to make decisions faster and with more flexibility.[18]

There are a number of factors affecting where decision-making resides in an organization: regulations, culture, traditions, and personalities, are just a few. One critical factor regarding what echelon decisions are made is trust. According to Malone, "If I don't trust you, I don't want you to make decisions on my behalf. That very human attitude means that centralized decision makers will avoid delegating important decisions to local decision makers, and if they do have to, they will try to control or monitor the local decision makers as much as possible."[19]

If our future leaders are to fully realize the key tenant of Network Centric Warfare – dramatically increased organizational effectiveness -- it is imperative that we develop our military into a trust-based organization.

TRUST-BASED ORGANIZATIONS

In "Changing the Paradigm, Trust and Its Role in Public Sector Organizations," Nyhan states, "Today's public sector work environments are rapidly changing and becoming increasingly complex. Effective management of public sector organizations requires new organizational paradigms. This trust-based organizational paradigm provides a framework for increasing organizational effectiveness…"[20]

Even though Nyhan's research is focused on municipal governments, it is not difficult to extrapolate his results to the military. His conceptual model is developed from a literature review of over 100 journal articles and books and is empirically tested using both structural equation modeling and data from municipalities. This analysis demonstrates that the trust-based model is viable for increasing organizational effectiveness. Nyhan's research indicates that participation in decision making, feedback, and empowerment of employees leads to increased interpersonal trust. His research further supports the hypothesis that these trust-building practices can lead to increased productivity and strengthened organizational commitment.[21] Nyhan's research resulted in the development of a Conceptual Model of Trust (Figure 4).
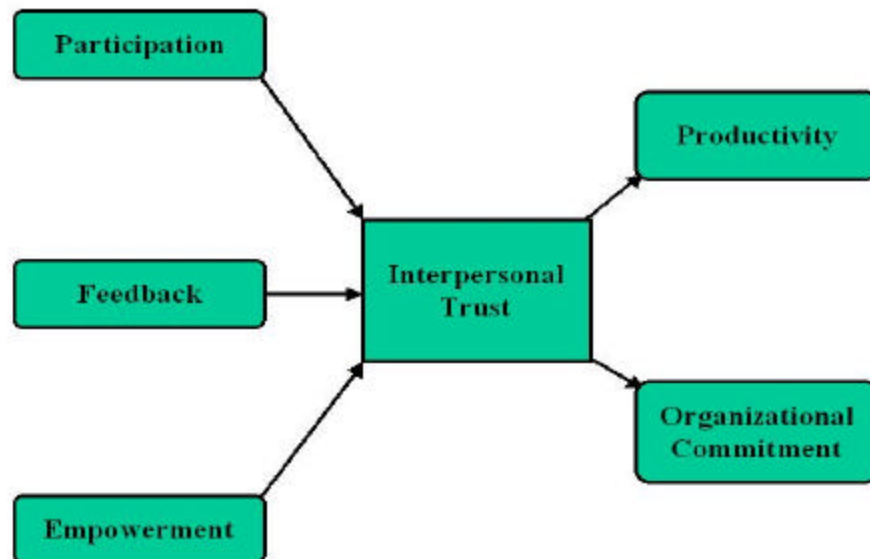
FIGURE 4. NYHAN'S CONCEPT OF THE INTERRELATIONSHIPS OF TRUST

Nyhan's Conceptual Model of the Interrelationships of Trust delineates the antecedents and consequences of trust. He posits that the following practices are necessary to increase trust:

- Participation in decision making
- Feedback from and to employees
- Empowerment of employees to accomplish work unilaterally[22]

ANTECEDENTS OF TRUST

In this model, participation views the employee as a knowledgeable participant in the decision making process rather than just a resource to be directed. Secrecy and rigid compliance to directives are not considered virtues. The body of evidence overwhelmingly supports participative management. It has proven positive effects on productivity, performance, and overall employee satisfaction. Participation helps meet the basic human need for increased autonomy and decreased isolation.

Some would argue that participation can be counterproductive due to the possibility of conflict between those in formal positions of authority and those that are not. Conflict is seen by some as a threat to those in positions of power, and in turn, is associated with instability. However, if sufficient trust exists between leaders and subordinates, conflict has the ability to be a positive force in the organization. Leaders should realize that conflict is inevitable and should learn to value those that challenge the status quo. Rich, robust debates and the channeling of energy can lead to innovation and increased efficiency.[23]

Feedback has always been considered one of the most significant dimensions in overall group effectiveness. Sharing critical information through open communications is critical to improving the overall effectiveness of an organization. Feedback should work as an error-correction mechanism to help identify challenges and solutions, while facilitating an environment of joint ownership for decisions and actions.[24] On the other side of the coin, Diffie-Couch states, "In a non-trusting environment, people don't open up. They hoard information, fail to report the severity of a problem, doubt even the valid messages from above."[25]

Additionally, the positive impacts of the combination of participation and feedback on manager-worker relations and organizational effectiveness are well documented. Zand reported that for trusting relationships to exist and grow, there must be meaningful participation and communication among all parties.[26]

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Empowerment is directly linked to the effectiveness of an organization when personnel function in trust-based environments. For soldiers to take ownership of their work, they must be trusted to establish ownership through their own decision making processes. Empowerment is viewed by some academicians as a significant prerequisite for developing trust in organizations. Research has shown that empowerment and trust are two critical elements required to change organizational cultures.

However, some would argue that unchecked empowerment can be detrimental to equity within an organization if personnel are allowed to ignore the basic guidelines that ensure fair and equal treatment for all. Organizations can not simply let employees throw out the rulebook. This concern can be mitigated by combining empowerment with cooperative participation and quality two-way communications.[27]

CONSEQUENCES OF TRUST

As depicted earlier in Nyhan's Conceptual Model of Trust, the two most common outcomes from increased trust are:

- Increased productivity
- Strengthened organizational commitment

Ouchi contends, "The first lesson in Theory Z is trust. Productivity and trust go hand-in-hand."[28] A high level of trust is the key factor in effective problem solving, which in turn can increase the level of productivity by personnel. Trust also directly impacts the quality of decision making and team building. Trust is necessary for individuals to feel free to offer opinions and ideas without fear of retribution or negative outcomes. In complex environments, where innovative strategies are necessary, a trustful and non-threatening atmosphere is critically important.[29]

Commitment to an organization requires a strong belief in and acceptance of an organization's values and goals. It provides a clear willingness to expend energy and effort for the organization and displays a strong desire to be a member of that organization. This affective organizational commitment is essential to retaining good soldiers

There is extensive research evaluating the relationship of trust and effective organizational commitment that found a strong, positive relationship between the two variables. Inversely, there are those that believe that mistrust will lead to decreased commitment for an organization.[30] Extensive existing research demonstrates clearly that trust-based organizations

operate more effectively than those where subordinates are mistrustful of their leadership. For the military to create a strong, trust-based organization it must focus on developing trust-based strategic leaders.

EVALUATION OF THE ARMY AS A TRUST-BASED ORGANIZATION

> The "trust gap" between junior and senior Army officers, the junior and senior members of the profession, has reached dangerously dysfunctional levels.
>
> ─Gayle Watkins and Don Snider

Thirty years of research indicates the Army is still having challenges with creating a trust-based environment. The "Study on Military Professionalism" that was conducted in 1970 provided a number of conclusions related to trust:

- There are widespread and often significant differences between the ideal ethical/moral/professional standards of the Army….
- The Army rewards system focuses on the accomplishment of short term, measurable, and often trivial tasks, and neglects the development of those ethical standards which are essential….
- …disregard for principles but total respect for accomplishing even the most trivial mission with zero defects….
- …communication between junior and senior is inadequate; the junior feels neglected and the senior is often out of touch with reality.
- The present climate is not conducive to retaining junior officers….[31]

Thirty years later, the Center for Strategic and International Studies (CSIS) published the *American Military Culture in the Twenty-First Century*, with similar finding. Some of their survey questions indicate continued challenges with trust related topics. Only 35% of respondents "Agreed" or "Strongly Agreed" that "When my Service's senior leaders say something, you can believe it is true." When asked, "In my Service an atmosphere of trust exist between leaders and their subordinates," only 36% "Agreed" or "Strongly agreed."[32]

Additionally, the Army conducted the Army Training and Leader Development Panel (ATLDP) study in 2000, which consisted of comprehensive surveys, focus groups, personal interviews and independent research. More than 13,500 Army leaders and their spouses

participated. Lieutenant General Steele summarizes some of the results from the ATLDP study by stating,

> The revealed weaknesses include an undisciplined operational pace; lack of senior-subordinate confidence and contact; micromanagement…. That widening gap between beliefs and practice leaves our Army culture out of balance. One pressure on the acceptable band of tolerance is micromanagement. Junior officers need opportunities to develop; they need commanders who trust them and are willing to underwrite mistakes.[33]

Watkins and Snider concluded that, "Perhaps more than civilian occupations, trust in the military goes to the heart of the profession's ethic and therefore to its effectiveness on the battlefield."[34] Unless leaders establish an organizational culture of trust, soldiers will not feel free to be truthful, and without transparent honesty in all interactions overall effectiveness is degraded. This lack of trust in organizations will only create a downward spiral that perpetuates continued micromanagement by leaders and risk-aversion by followers.[35]

The research is clear regarding the Army's challenge of being a trust-based organization. After thirty years of similar quantitative and qualitative results, it appears as though it is not a self-correcting situation. If our future military is going to be effective in NCW environments, it must address the development of trust-based leaders committed to reforming the Army climate.

DEVELOPMENT OF TRUST-BASED STRATEGIC LEADERS

> Technology is only a part of the equation. The more complex portion is leadership. The key to victory is the combination of information-age technology and capable leaders…
>
> —Lieutenant General William M. Steele

First we should explore the definition of a strategic leader in a NCW environment. In an interconnected, geographically dispersed battlefield, tactical actions by lieutenants, sergeants, corporals and their commanders can have strategic consequences with lasting impacts on National policy.[36] General Clark discusses this challenge in his autobiography…

> …old separations in time between military and the political and between echelons of military command were no longer the same….What we discovered increasingly was that the political and strategic levels impinged on the

operational and tactical levels. Or, to put it another way, any event in modern war has four distinct, unequal components: tactical, operational, strategic, and political. Sometimes even insignificant tactical events packed a huge political wallop. This is a key characteristic of modern war.[37]

Whether it is a soldier at a checkpoint or one walking foot patrol during a peacekeeping mission, they may be required to make a critical, split-second decision. Even though their decision will be knowledge-based and self-synchronized with all available information, it could have tremendous strategic repercussions. But this does not make them a strategic leader; it makes them a potential strategic actor that was influenced by a strategic leader's intent-based orders and other relevant information provided by the infostructure.

Power-based unilateral command may have worked in an Industrial Age hierarchical organization, but it simply does not create efficiencies in an Information Age organization such as that required for NCW. Future organizations must be highly adaptive and have the ability to sense change and respond appropriately. Future organizations must not only respond; they must self-synchronize. Even though there is a belief by some that strategic decisions are made primarily at the top-end of an organization, in a NCW environment the lines between political, strategic, operational, and tactical leadership become blurred.[38] Both the complexity and a rate of change in emergent environments put a premium on the agility and adaptability of future leaders and their organizations. This new and ever changing environment requires a different cultural understanding of learning organizations and knowledge workers. It will create flatter organizations, decrease formalization, and decentralize decision making with much more emphasis placed on how knowledge is managed and shared. Everyone in the organization must understand these nuances or they will not be capable of transforming their organizations to function effectively in the next century.[39]

Additionally, and most importantly, strategic leaders must be capable of creating trust-based organizations. Even though a strategic leader may fully believe in the concept of allowing the cyber-leader to make decentralized decisions in a NCW environment, there may be times when the strategic leader feels that the moral component of command makes it important to reach down and provide personal direction to the soldier in the foxhole. This action could be circumventing several layers of C2. Typically, this behavior would have an immediate negative impact on the leaders that were bypassed and can generate a negative perception by the recipient of the order. The layers of leadership that are bypassed may feel that the strategic leader does not trust them to make the appropriate decision, when this is not the case. Regardless of the reason, if the strategic leader has developed the appropriate level of

trustworthiness, the soldiers on the ground will understand there was a competing reason that created the shift in typical decision making practices. The strategic leader must create enough trustworthiness to move smoothly within a myriad of competing values.[40]

The United States Army War College's, Department of Command, Leadership and Management (DCLM) states, "…the essence of strategic leadership is the ability to shape an organization's culture and values to support a vision while retaining the trust and confidence of subordinates and members of the greater society."[41] For the military to create trust-based strategic leaders that can move within a competing values continuum without creating detrimental effects, they must fully immerse leaders at all levels in training that focuses on trust-based leadership competencies.

TRUST-BASED LEADERSHIP COMPETENCIES

Competencies are the attributes, skills, or knowledge that can be derived from natural abilities, experience, education, and training. In their *Strategic Leadership Primer*, The United States Army War College divides these competencies into three major categories: 1) interpersonal, 2) technical, and 3) conceptual. Interpersonal competencies refer to the ability to communicate effectively, think creatively, and to achieve consensus-building through negotiations, both internally and externally. Technical competencies relate to understanding the organizational impacts created by the current and future economic, political, and cultural systems. Conceptual competencies involve the myriad of thinking skillsets necessary to comprehend, analyze, and deal with the multifaceted issues in an uncertain strategic world.[42]

Even though FM 22-100, *Army Leadership*, provides the *Be, Know,* and *Do* framework as the catalyst for the basic leadership tools, we must focus our efforts on educating our leaders on the value of developing intuitive ways to deal with trust. If we our going to be an effective organization in NCW environments, leaders must seek an understanding of the varied dimensions of trust-based leadership competencies. There needs to be a revision of military leadership literature that focuses on defining and encouraging others to seek the centripetal force that attracts followers to certain leaders – trust.

The following reinforcing causal loop diagram (Figure 5) illustrates the interrelatedness of the trust-based leadership competencies required to be effective in NCW environments:

Trust-based Leadership Competencies

FIGURE 5. TRUST-BASED LEADERSHIP COMPETENCIES

The Trust-based Leadership Competencies create a reinforcing casual loop that results in compound change in one direction. The challenge with this process is that like all typical reinforcing loops the results created can be positive or negative. As values-based ethical behavior increases, so does self-awareness, and as self-awareness increases, so does adaptability. This positive, compounding action reduces the leader's gap of trustworthiness within the professional community, which in turn, makes leaders more trustworthy. However, the inverse is also true. If values-based ethical behavior decreases, then self-awareness decreases, as does adaptability. This decaying action will increase the gap in a leader's level of trustworthiness.[43]

VALUES-BASED ETHICAL BEHAVIOR

> War must be carried out systematically, and to do it you must have men of character activated by principles of honor.
>
> ⎯George Washington

To *Be* a strategic leader, it is essential to stay centrally focused on *values-based ethical behavior*. The Army has outlined what they consider their core set of values: Loyalty, Duty, Respect, Selfless Service, Honesty, Integrity, and Personal Courage. These core values

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provide a character base for every leader to build upon. But, a strategic leader must continue to internalize these values and through careful and consistent introspection determine additional values that can be extrapolated into all areas of decision-making. The former Chief of Staff Army, General Wickam, commented on character in a White Paper by saying,

> Our character is what enables us to withstand the rigors of combat or the challenges of daily life that might tempt us to compromise our principles such as integrity, loyalty, or selflessness. Ultimately, strengthening the values that make up our character enable us to strengthen our inner self, strengthen our bonding to others, and strengthen our commitment to a higher calling.[44]

According to Lieutenant General Steele, "The Army's values-based leader competencies are irrefutable, even if the environment changes. They are at the heart and soul of the soldier's profession. They are the foundation on which all other leader competencies are based."[45] A strategic leader also needs to understand that being the standard bearer for values-based decision making is the basis for developing the central element of a professional - trust. According to Dr. Brien, "The best way to encourage others to trust you is to act ethically and be transparent about it….By aiming for trust directly one must act ethically."[46]

According to Watkins and Snider one of their strongest findings in their research, "was the importance that Army officers correctly place on the profession's ethics…" There must be an absolute and unequivocal commitment by leaders at all levels to seek "clear truth-telling" at all times.[47]

As long as strategic leaders stay focused on making values-based decisions, they will function ethically, and in turn, build trust. The level of trust strategic leaders' posses will directly impact their ability to function in emergent, knowledge-based environments. Leaders must understand that trust flows from values-based ethical behavior. Mastering values-based ethical decision making should be the aspiration of every leader. The ability of leaders to consistently make the right decisions determines if others will consistently follow.[48]

SELF-AWARENESS

To *Know* the skills of a strategic leader, leaders must seek s*elf-awareness* through a lifelong learning process. Lieutenant General Steele discusses the Officer Education System (OES) by stating,

The OES requires a new approach that focuses each school on a central task and purpose; promotes officer bonding, cohesion, trust and life-long learning; links schools horizontally and vertically; synchronizes educational and operational experiences; and educates officers to common standards.[49]

By increasing self-awareness through a precise system of higher education, strategic leaders increase their level of professionalism. It is critical for strategic leaders to be afforded the opportunities to acquire and master the appropriate levels of abstract knowledge and techniques for application. Additionally, strategic leaders must be given the opportunity to tend to an organization's body of expert knowledge; if not, then the profession's legitimacy may decline.[50] For any profession to establish a trusted position in society they must adapt, extend, develop, and refine their expert knowledge.[51]

Even though the military has an obligation to provide professional learning environments and to institutionalize the organization's learning philosophy, effective strategic leaders must take full responsibility for their own self-development by staying abreast of changes that impact their environments. It is imperative that strategic leaders have the ability to assess their own personal abilities, strengths, and weaknesses in complex and turbulent environments, and then modify shortcomings and utilize strengths to their maximum potential. The strategic leader's learning process must meet set standards and requires consistent feedback to make proper adjustments. This entire learning process will result in reinforcing the levels of trust within their given organization.

Professional trust is increased as subordinates, peers and superiors understand a strategic leader has sought to add to a professional body of knowledge and has taken the necessary steps to effectively function in a knowledge-based environment. In turn, this trust will increase the level of cooperation within the full spectrum of future operations. In Putnam's opinion, "Trust lubricates cooperation. The greater the level of trust within a community, the greater the likelihood of cooperation. And cooperation itself breeds trust."[52]

ADAPTABILITY

It's our duty to develop soldiers and leaders who have the skills necessary to succeed today and in the future.
—General Erik Shinseki

To *Do* what is expected of a strategic leader, leaders must be *adaptable* to changing and complex environments while making clear and consistent decisions. All leaders should be able to function in planned environments, but true strategic leaders must also be capable of functioning in emergent environments.

Success on an information-age battlefield requires leaders to make faster, better, more effective decisions. For leaders at all levels to reach the full potential of NCW environments, they must be able to simultaneously comprehend and adapt accordingly to the interaction of the three domains of NCW.[53] When fully matured, NCW includes physical, informational, and cognitive domains. A robust, secure, seamless, and interoperable network provides the physical domain. The information domain provides the organization the ability to access, share, protect, and maintain an information advantage over an adversary. The cognitive domain provides the capability to develop and share relevant situational awareness while understanding and synthesizing the commander's intent. The combination of these three domains allows knowledge-based decision making while conducting self-synchronized operations.[54]

Simons believes that, "Soldiers expect officers to be the authority on what is the right thing to do – tactically, doctrinally, legally, morally. Whenever officers can prove soldiers correct about this, they lead."[55] Strategic leaders must have the ability to look forward and to react effectively, efficiently and consistently to changes in their present and future environments. Depending on the viability of the infostructure, strategic leaders must be adaptable enough to function with maximum or minimal C2. This ability to adapt and operate consistently anywhere in the continuum of the full spectrum of operations will be directly related to the level of trust and effectiveness the professional leader will create within their organization.

CONCLUSIONS

Much has been written regarding NCW and even more has been written regarding leadership, but there has not been much done linking the two together. If we are going to truly maximize the effectiveness of future military organizations, the linkage between NCW and leadership needs to be addressed in depth. Leaders at all levels must value professional trust and learn to adapt to the elimination of informational and hierarchical boundaries.

The Army's future vision of Network Centric Warfare will force leaders at all levels to function in very emergent environments. There will be times when these leaders will have situational awareness at all levels and excellent C2; however, there will be moments when centralized C2 will be nonfunctional. In stabilized knowledge-based environments very senior leaders will be capable of making centralized decisions to decentralized forces based on vast

amounts of remote information gathered through complex networks of communications devices. However, for the military to truly be efficient in the NCW environment it must recognize that leaders on the ground have to be trusted to be innovative cyber-warriors and allowed much discretion.

For the military to maximize its effectiveness in NCW it is an absolute imperative that it focuses its efforts towards the development of trust-based organizations. The research is clear regarding the overall increase in the effectiveness of trust-based organizations, and it is also clear that over the last thirty years the military has fallen short of the mark. There needs to be a concentrated effort towards identifying the critical elements of trust-based organizations and the creation of trust-based leaders to support this endeavor.

Leaders at all levels must be educated and then trusted to communicate effectively and efficiently in VUCA environments, while not losing sight of their values. This vision must be maintained while being self-aware and adaptable to the changing dynamics of complex environments. Values-based and trust-based leadership competencies are symbiotic – one without the other two reduces a strategic leader's effectiveness. In LTG Steele's opinion, "A person who has adaptability without self-awareness is irrationally changing for change's sake, not understanding the relationship between abilities, duties and the environment."[56]

Therefore, it is critical for strategic leaders to stay immersed in values-based ethical decision-making, as it is the catalyst driving the trust-based leadership competencies of self-awareness and adaptability. Douglas Macgregor captures this concept well in his book, *Breaking the Phalanx*, when he states, "The necessity for command, control, and sustainment of dispersed formations increases reliance on subordinate officers' and soldiers' judgment, intelligence, and character."[57] The three keys words Macgregor uses can be replaced by the three trust-based competencies described herein -- *adaptability* for judgment, *self-awareness* for intelligence, and *values-based behavior* for character. In the end, a strategic leader's ability to inculcate these three competencies will define their perceived level of trustworthiness within their professional organization.

Leaders must understand that trustworthy leaders create trustworthy organizations, and in turn, create more effective organizations in emergent environments. For these reasons, it is critical for the military's future leaders, at all levels, to focus on developing trust-based leadership competencies beyond those in FM 22-100, *Army Leadership*.

WORD COUNT = 6,184

ENDNOTES

[1] The author participated in the United States Army Signal Center's Strategic Planning Process in 1998, which was the catalyst for the Signal Regimental Vision Statement.

[2] Wesley K. Clark, *Waging Modern War* (New York: Public Affairs, 2001), 433.

[3] Karl E. Weick, *Sensemaking in Organizations* (Thousand Oaks, CA: Sage, 1995), 10.

[4] H. Mintzberg, *The Rise and Fall of Strategic Planning* (New York: Free Press, 1994), 360.

[5] P. Y. Mang, "Strategic Innovation: Constantinos Markides on Strategy and Management," *Academy of Management Executive* 14 (May 2000): 24-43.

[6] David S. Alberts, John J. Garstka, and Frederick P Stein, *Network Centric Warfare; Developing and Leveraging Information Superiority,* (Washington, DC: Command and Control Research Program, 2000), 88.

[7] Ibid., 88.

[8] Ibid., 90.

[9] Ibid., 91.

[10] Ibid.

[11] David S. Alberts, *Information Age Transformation; Getting to a 21st Century Military* (Washington, DC: Command and Control Research Program, 2002), 40.

[12] Ibid., 41.

[13] Ibid., 84-85.

[14] Ibid., 86.

[15] Ibid., 87.

[16] David S. Alberts, et al., *Understanding Information Age Warfare* (Washington, DC: Command and Control Research Program, 2001). 162.

[17] Thomas Malone, "Is Empowerment Just a Fad? Control, Decision Making, and IT," *Sloan Management Review, (*Winter 1997): 26.

[18] Ibid., 27.

[19] Ibid., 28.

[20] Ronald C. Nyhan, "Changing the Paradigm, Trust and Its Role in Public Sector Organizations," *American Review of Public Administration,* 30 (March 2000): 103.

[21] Ibid., 90.

[22] Ibid., 91.

[23] Ibid., 92.

[24] Ibid.

[25] P. Diffie-Couch, "Building a Feeling of Trust in the Company," *Supervisory Management* (April 1984): 31.

[26] Ronald C. Nyhan, "Changing the Paradigm, Trust and Its Role in Public Sector Organizations," *American Review of Public Administration*, 30 (March 2000): 92.

[27] Ibid., 93.

[28] W. G. Ouchi, *Theory Z: How American Business Can Meet the Japanese Challenge* (Reading, MA.: Addison-Wesley, 1981), 5.

[29] Ronald C. Nyhan, "Changing the Paradigm, Trust and Its Role in Public Sector Organizations," *American Review of Public Administration*, 30 (March 2000): 94.

[30] Ibid., 95.

[31] James E. Price, et al., *Study on Military Professionalism*, (Carlisle Barracks: US Army War College, June 1970), 30-31.

[32] Walter F. Ulmer, Jr., et al., *American Military Culture in the Twenty-First Century* (Washington, DC: The Center for Strategic and International Studies, February 2000), 72-73.

[33] William M. Steele and Robert P. Walters, Jr., "Training and Developing Army Leaders," *Military Review*, (July – August 2001): 7-8.

[34] Gayle L. Watkins and Don M. Snider, "Project Conclusions," in *The Future of the Army Profession* (Boston, MA: McGraw-Hill, 2002), 543.

[35] Ibid., 543.

[36] Ibid., 3.

[37] Wesley K. Clark, *Waging Modern War* (New York: Public Affairs, 2001), 10-11.

[38] T.O. Jacobs, *Strategic Leadership; The Competitive Edge* (Fort McNair: Industrial College of the Armed Forces, 2002), 21.

[39] Ibid., 2.

[40] Robert E. Quinn and John Rohrbaugh, "Beyond Rational Management; Mastering the Paradoxes and Competing Demands of High Performance," *Public Productivity Review,* (June 1981): 122-140.

[41] Roderick R. Magee, II, et al., *Strategic Leadership Primer* (Carlisle, PA: United States Army War College, 1998), 36.

[42] Ibid., 37-44.

[43] Daniel H. Kim, *Systems Thinking Tools* (Williston, VT: Pegasus Communications, 1994), 14.

[44] John A. Wickam, Jr., *White Paper: Values, the Rock of our Profession* (Washington, D.C.: U.S. Department of the Army, 1986), 5.

[45] William M. Steele, "21st Century Leadership Competencies," *Army Magazine,* (August 2001): 30.

[46] Andrew Brien, "Professional Ethics and The Culture of Trust," *Journal of Business Ethics* (1998): 401.

[47] Gayle L. Watkins and Don M. Snider, "Project Conclusions," *The Future of the Army Profession* (Boston, MA: McGraw-Hill, 2002), 542.

[48] Anna Simons, "Backbone vs. Box; The Choice Between Principles and Prescriptive Leadership," in *The Future of the Army Profession* (Boston, MA: McGraw-Hill, 2002), 385.

[49] William M. Steele and Robert P. Walters, Jr., "Training and Developing Army Leaders," *Military Review,* (July – August 2001): 7.

[50] Gregg F. Martin and Jeffrey D. McCausland, "The Role of Strategic Leaders for the Future Army Profession," in *The Future of the Army Profession* (Boston, MA: McGraw-Hill, 2002), 428.

[51] Gayle L. Watkins and Don M. Snider, "Project Conclusions," in *The Future of the Army Profession* (Boston, MA: McGraw-Hill, 2002), 539.

[52] Robert Putnam, *Making Democracy Work; Civic Traditions in Modern Italy,* (Princeton: Princeton University Press, 1993), 171.

[53] David S. Alberts, et al., *Understanding Information Age Warfare,* (Washington, DC: Command and Control Research Program, 2001), 57.

[54] Ibid., 57-58.

[55] Anna Simons, "Backbone vs. Box," in *The Future of the Army Profession* (Boston, MA: McGraw-Hill, 2002), 385.

[56] William M. Steele, "21st Century Leadership Competencies," *Army Magazine*, (August 2001): 31.

[57] Douglas A. MacGregor, *Breaking the Phalanx; A New Design for Landpower in the 21st Century* (Westport, CT: Praeger, 1997), 5.

BIBLIOGRAPHY

Alberts, David S. *Information Age Transformation; Getting to a 21st Century Military.* Washington, DC: Command and Control Research Program, 2002.

Alberts, David S., John J. Garstka, Frederick P. Stein. *Network Centric Warfare; Developing and Leveraging Information Superiority.* Washington, DC: Command and Control Research Program, 2000.

Alberts, David S., et al., *Understanding Information Age Warfare.* Washington, DC: Command and Control Research Program, 2001.

Brien, Andrew. "Professional Ethics and The Culture of Trust." *Journal of Business Ethics.* 17 (1998): 391-409.

Clark, Wesley K. *Waging Modern War.* New York: Public Affairs, 2001.

Diffie-Couch, P. "Building a Feeling of Trust in the Company." *Supervisory Management.* (April 1984): 31.

Jacobs, T.O. *Strategic Leadership; The Competitive Edge.* Fort McNair: Industrial College of the Armed Forces, 2002.

Kim, Daniel H. *Systems Thinking Tools.* Williston, VT: Pegasus Communications, 1994.

MacGregor, Douglas A. *Breaking the Phalanx; A New Design for Landpower in the 21st Century.* Westport, CT: Praeger, 1997.

Magee, Roderick R., II, et al. *Strategic Leadership Primer.* Carlisle, PA: United States Army War College, 1998.

Malone, Thomas. "Is Empowerment Just a Fad? Control, Decision Making, and IT." *Sloan Management Review.* (Winter 1997): 26-28.

Mang, P. Y. "Strategic Innovation: Constantinos Markides on Strategy and Management." *Academy of Management Executive.* (2000): 24-43.

Martin, Gregg F., and Jeffrey D. McCausland. "The Role of Strategic Leaders for the Future Army Profession." In *The Future of the Army Profession.* Boston, MA: McGraw-Hill, 2002.

Mintzberg, H. *The Rise and Fall of Strategic Planning.* New York: Free Press, 1994.

Nyhan, Ronald C. "Changing the Paradigm, Trust and Its Role in Public Sector Organizations." *American Review of Public Administration.* 30 (March 2000): 90-103.

Ouchi, W. G. *Theory Z: How American Business Can Meet the Japanese Challenge.* Reading, MA: Addison-Wesley, 1981.

Price, James E., et al. *Study on Military Professionalism.* Carlisle, PA: US Army War College, June 1970.

Putnam, Robert. *Making Democracy Work; Civic Traditions in Modern Italy.* Princeton: Princeton University Press, 1993.

Quinn, Robert E., and John Rohrbaugh. "Beyond Rational Management; Mastering the Paradoxes and Competing Demands of High Performance." *Public Productivity Review* (June 1981): 122-140.

Simmons, Anna. "Backbone vs. Box; The Choice Between Principles and Prescriptive Leadership." *In The Future of the Army Profession.* Boston, MA: McGraw-Hill, 2002.

Snider, Don M., and Gayle L. Watkins. "Project Conclusions," in *The Future of the Army Profession.* Boston, MA: McGraw-Hill, 2002.

Steele, William M., and Robert P Walters, Jr. "Training and Developing Army Leaders." *Military Review.* (July–August 2001): 7-8.

Steele, William M. "21st Century Leadership Competencies." *Army Magazine.* (August 2001): 30-31.

Ulmer, Walter F., et al. *American Military Culture in the Twenty-First Century.* Washington, DC: The Center for Strategic and International Studies. (February 2000): 72-73.

Weick, Karl E. *Sensemaking in Organizations.* Thousand Oaks, CA: Sage, 1995.

Wickam, John A., Jr. *White Paper: Values, the Rock of our Profession.* Washington, D.C.:   U.S. Department of the Army, 1986.